WHAT IS CLAIMED IS:

1. A production process for dissolving beryllium in a beryllium feed source by means of a fluorine-containing compound in an aqueous medium, the process comprising the steps of:

(a) providing the beryllium feed source;

(b) reacting the beryllium feed source with the fluorine-containing compound in a reaction stage to produce dissolved beryllium values in the aqueous medium, and

(c) processing said dissolved beryllium values to produce a refined beryllium-containing product.

2. The process according to claim 1, wherein the fluorine-containing compound is an active fluorine-containing compound.

3. The process according to claim 1, wherein the fluorine-containing compound is a major component.

4. The process according to claim 1, wherein the fluorine-containing compound includes hydrofluoric acid.

5. The process according to claim 3, wherein the fluorine-containing compound includes hydrofluoric acid.

6. The process according to claim 1, wherein said reacting is performed at a pressure exceeding a pressure of one atmosphere absolute (1 ata).

7. The process according to claim 1, wherein said reacting is performed at a pressure exceeding a pressure of 1.5 atmospheres absolute (1.5 ata).

8. The process according to claim 1, wherein said reacting is performed at a pressure exceeding a pressure of two atmospheres absolute (2 ata).

9. The process according to claim 1, wherein said reacting is performed at a pressure exceeding a pressure of three atmospheres absolute (3 ata).

10. The process according to claim 3, wherein the fluorine-containing compound includes silicon tetrafluoride.

11. The process according to claim 10, wherein the aqueous medium is an acidic aqueous medium.

12. The process according to claim 5, wherein said reacting is performed at a pressure exceeding a pressure of one atmosphere absolute (1 ata).

13. The process according to claim 1, wherein said reaction stage yields a solid residue along with the aqueous medium, the process further comprising the step of:

(d) separating at least a portion of the aqueous medium from said solid residue.

14. The process of claim 1, wherein the beryllium feed source includes beryl.

15. The process of claim 14, wherein said beryl is directly introduced to said reaction stage.

16. The process of claim 14, wherein said reacting is performed at a temperature below 250°C.

17. The process of claim 14, wherein said reacting is performed at a temperature below 220°C.

18. The process of claim 14, wherein said reacting is performed at a temperature below 180°C.

19. The process of claim 14, wherein said reacting is performed at a temperature below 150°C.

20. The process of claim 14, further comprising the step of:

(d) introducing a second beryllium source, prior to step (c), so as to dissolve additional beryllium values and to consume at least a portion of any excess acid from step (b).

21. The process of claim 20, wherein said second beryllium source includes a readily soluble beryllium feed source.

22. The process of claim 20, wherein said second beryllium source is a readily soluble beryllium feed source.

23. The process of claim 20, wherein said reacting is performed in a vessel that is fluidly sealed from an outside environment.

24. The process of claim 20, wherein said reaction stage is performed at a temperature above 120°C and below 350°C.